

Name: _____

Date: _____

PCW__09__22 Coordinate transformations v20

Question 1

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = \frac{f\left[\frac{x}{9} + 5\right]}{3} + 2$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow \left(9(a - 5) , \frac{b}{3} + 2 \right)$$

Question 2

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = \frac{f\left[\frac{x-8}{6}\right] + 5}{2}$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow \left(6a + 8 , \frac{b + 5}{2} \right)$$

Question 3

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = 6 \cdot (f[7(x - 2)] + 8)$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow \left(\frac{a}{7} + 2 , 6(b + 8) \right)$$

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Question 4

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = 2 \cdot (f[3x + 7] - 6)$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow \left(\frac{a-7}{3}, 2(b-6) \right)$$

Question 5

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = \frac{f[3(x+6)]}{4} - 8$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow \left(\frac{a}{3} - 6, \frac{b}{4} - 8 \right)$$

Question 6

Consider the two functions f and g , where g is defined as a transformation of f :

$$g[x] = 5 \cdot f\left[\frac{x+6}{2}\right] - 7$$

For point (a, b) on curve f there is a corresponding point on the curve g . Write the coordinate transformation.

$$(a, b) \rightarrow (2a - 6, 5b - 7)$$